REMARKS

Claims 1-3, 8 and 10-25 are presented for reconsideration.

Applicants' attorneys wish to thank the Examiner for the courtesy of granting a telephone interview on August 20, 2002, during which the rejection was discussed and arguments were presented for the allowance of the claims over the rejection. It was suggested that a claim, such as claim 21, be amended to place it in independent form including the limitations of the parent claim. It is the undersigned attorney's understanding that no agreements were reached.

In the **Final Rejection**, claims 1-3, 8 and 10-25 were rejected under 35 USC 103 as being unpatentable over Olson et al in view of Rigney and GB 2269393 by Floge et al.

By this amendment, claim 21 has been amended to place it in independent form including all of the limitations of parent claim 1 and has been amended to insert that the applying of the slip into the component part to form a slip layer, which was inferred by the limitation in claim 21 of heating the slip layer.

It is respectfully requested that this amendment be entered for the purpose of placing the application in condition for allowance or in better form for an Appeal. It is respectfully submitted that since all of the features of claim 21 were present at the final rejection, no new issues are raised by this amendment placing claim 21 in independent form.

As pointed out during the telephone interview, none of the three references teach or suggest all of the steps recited in independent claim 1 or in independent claim 21. It is submitted that without the benefit of applicants' disclosure to suggest selecting bits and pieces and making additional modifications in the steps of the three references, a person of ordinary skill in the art would not obtain the sequence of steps in the particular order recited in claim 21. Thus, it is submitted that the rejection is based solely on a hindsight reconstruction of the prior art using applicants' disclosure as the teaching reference. It is also submitted that none of the references teach or suggest to a person of ordinary skill in the art the necessary modifications, as proposed in the Examiner's rejection.

For example, the primary reference to Olson et al teaches applying a thin MCrAlY overlay coating on the surface of a superalloy substrate and then subjecting the coating component to a pack aluminizing process, wherein the aluminum from the pack diffuses through the MCrAlY coating into the superalloy substrate. Olson et al preferably applies the coating by plasma spraying so that the particles are molten (column 7, lines 43-53). However, it does mention, in column 7, lines 41-43 that the coating can be applied by plasma spraying, electron beam evaporation, electroplating, sputtering or slurry deposition. It is noted, as acknowledged by the Examiner, that Olson et al does not go into any of the steps for the slurry deposition. In Example 1 in column 8, Olson et al states that after the coating had been applied to the superalloy surface, it was glass bead peened at an intensity of 0.015-0.019 inches N and then the component was aluminized. After the aluminizing process, which was carried out at 1875°F (approximately 1023°C) for three hours in an argon atmosphere, the coating component was then given a diffusion heat treatment at 1975°F (approximately 1079°C) for four hours and then a precipitation heat treatment at 1600°F (approximately 870°C) for 32 hours. As noted, the reference does not teach or suggest specific steps for producing the slip, applying the slip and drying the slip. In addition, the reference does not suggest the grain size or cavity proportion or the element Ce. It is also noted that there is no teaching or suggestion of heat treating prior to the aluminizing step.

Rigney, which is the second reference applied in the rejection, describes a process for coating an alloy substrate with an alloy with a slurry technique utilizing finely divided alloys of cobalt-aluminum, nickel-aluminum and/or iron-aluminum, which are mixed with chromium-aluminum alloys with or without yttrium being added. The slurry is sprayed, brushed or deep-coated electrophoretically deposited on the substrate. After allowing the solvent of the slurry to evaporate by storing the coating substrate in the atmosphere at room temperature, the item is then sintered at a temperature range of 1800°F to 2300°F. In column 5, lines 28-30, the reference states that then a ductilization heat treatment can be made wherein the article is heated at 1975°F for four to eight hours. This is apparently subsequent to the sintering. Rigney does not teach applying a coating onto an adhesive layer and does not suggest the element Ce or the cavity proportion. It is noted that Rigney is completely silent about either aluminizing or alitizing. It is also noted that neither Rigney nor Olson et al

teaches aluminizing as a way of causing the powders of the slip layer to be diffused together, as shown in applicants' specification.

Finally, the British reference to Floge et al teaches providing an MCrAlZ layer, either by a low-pressure plasma injection method or by a PVD method, onto a substrate and then applying a heat insulating layer thereto. It does teach that you can have a final heat treatment performed at a temperature of 900°C to 1200°C before applying the heat insulating layer. It is also noted that after applying the first layer and before applying the heat insulating layer, a material-removing machining is first performed for smoothing and setting the thickness of the layer after the heat treatment. This reference does not suggest the element Ce, alitizing, grain size or cavity proportion. In fact, it is submitted that the smoothing would close the cavities or pores.

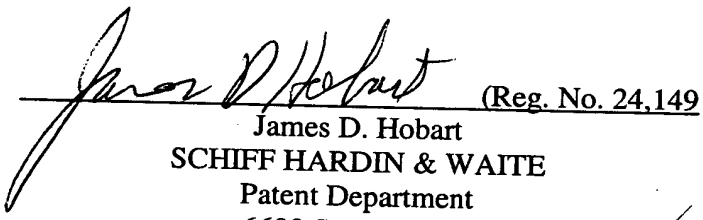
It is submitted that while each of the steps recited in claim 1 may be individually found in the three references, none of the references have teaching or suggestion of the particular order or sequence of steps and that such a suggestion is only provided by applicants' disclosure. Thus, it is submitted that the combination of the three references as applied against claim 1 is in error and should be withdrawn. It is also submitted that the Examiner has not established the obviousness of the method steps recited in claim 1 to a person of ordinary skill in the art having benefit of only these three references. For example, it is submitted that without applicants' disclosure, a person of ordinary skill in the art would not know that the aluminizing would cause a sintering or fusion of the slip layer. The only reference dealing with slurries, in particular, does not teach or suggest aluminizing and the only reference teaching aluminizing does not teach or suggest that it would cause the slip to be sintered together. For these reasons, it is submitted that independent claim 1 and dependent claims 2, 3, 10-20, 24 and 25 are clearly patentable over the prior art and are allowable.

With regard to claim 21 and dependent claims 22 and 23, it is submitted that there is no teaching or suggestion after drying the slip layer, heat treating the slip layer at a temperature range of 750°C to 1200°C in an atmosphere selected from argon and a vacuum, and then alitizing the slip layer to form the adhesion layer, followed by applying a heat insulating layer on the adhesive layer. For these reasons, it is submitted that independent

claim 21 and dependent claims 22 and 23 are clearly patentable over the prior art and are allowable.

In view of the amendments and explanations contained hereinabove, it is respectfully submitted that this application is now in condition for immediate formal allowance and further reconsideration to that end is earnestly solicited.

Respectfully submitted,



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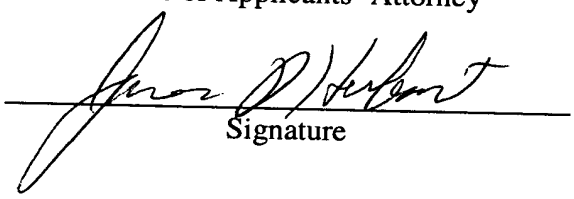
DATED: August 21, 2002

CERTIFICATE OF MAILING

I hereby certify that this correspondence is being deposited with the United States Postal Service as First Class Mail in an envelope addressed to the Assistant Commissioner for Patents, Washington, D.C. 20231 on August 21, 2002.

James D. Hobart
Name of Applicants' Attorney



Signature

August 21, 2002
Date

APPENDIX

Version with markings to show changes made.

IN THE CLAIMS:

--21. (Amended) A method [according to claim 1, which includes, prior to the step of alitizing,] for manufacturing an adhesion layer for a heat insulating layer that is applied onto a component part, the method comprising the steps of:

a) producing a slip by mixing powders containing at least one of the elements Cr, Ni or Ce with a binding agent;

b) applying the slip onto the component part to form a slip layer;

c) drying the slip layer at temperatures from room temperature through 300°C;

d) heat treating the slip layer at a temperature range of 750°C to 1200°C in an atmosphere selected from argon and a vacuum;

e) then alitizing the slip layer to form the adhesion layer, whereby the method is controlled so that the adhesion layer comprises a structure having a grain size less than 75µm and a cavity proportion from 0 through 40%; and

f) applying a heat insulating layer on the adhesive layer.--